

CLAIMS

1. Doctor or coater blade, in particular for use as wiping, scraper and/or cleaning tool in the production of paper pulp and/or paper in different stages of the production process, consisting of an edge-provided strip of steel, the edge portion of which has been provided with a wear-resistant coating, *characterized in* that the edge portion of the blade is coated with a surface-reinforcing coating applied by means of laser technique, so that metallurgical binding is present between said wear-resistant coating and the steel strip, and that the edge portion has a hardness of more than 1000 HV.

2. Doctor or coater blade according to claim 1, *characterized in* that the wear-resistant coating has a level of surface hardness of at least 850 HV.

3. Doctor or coater blade according to claim 1, *characterized in* that the edge portion of the blade has a surface layer applied by means of laser coating, the thickness of which layer constitutes 5–15 % of the thickness of the blade.

4. Doctor or coater blade according to claim 1, *characterized in* that the edge portion of the blade has a surface-reinforcing portion applied by means of laser coating or laser impregnation, the thickness of which portion constitutes 5–15 % of the thickness of the blade.

5. Doctor or coater blade according to any one of the preceding claims, *characterized in* that the steel is a carbon steel with a chemical composition in % by weight being 0,8–1,2 % of C, preferably about 1 % of C, 0,20–0,35 % of Si, 0,35–0,50 % of Mn, maximum 0,02 % of P, maximum 0,01 % of S, with Fe as balance and the content of some additional element in the periodic system in contents below 0,5 %.

6. Method for the manufacture of a doctor or coater blade according to any one of claims 1–5, *characterized in* that a material manufactured from steel is first rolled out and edge-treated to having an edge portion formed along one of the edges and that said edge portion then is provided with a surface-reinforcing layer applied by means of laser technique, in such a way that a metallurgical binding arises between said layer and the subjacent steel sub-

strate, and that the edge treatment is provided in the way that the steel substrate is subjected to a laser treatment during supply of powder at such a supply of heat that the powder is fused with the steel substrate while forming an atomic/metallurgical binding.

5 7. Method for the manufacture of a doctor or coater blade according to any one of claims 1–5, *characterized in* that a material manufactured from steel is first rolled out and edge-treated to having an edge portion formed along one of the edges and that said edge portion then is provided with a surface-reinforcing layer applied by means of laser technique, in such a way that a metallurgical binding arises between said layer and the subjacent steel substrate, and that the edge treatment is provided in the way that the steel substrate is subjected to
10 a laser impregnation and recovery, material particles of a ceramic material penetrating into the surface melt by means of laser, so that an atomic/metallurgical binding arises.

 8. Method according to claims 6 or 7, *characterized in* that the supplied powder
15 essentially contains aluminum oxide.

 9. Method according to claims 6 or 7, *characterized in* that the supplied material essentially contains stellite.

20 10. Method according to claim 7-9, *characterized in* that the impregnation is carried out in the way that carbides and nitrides, such as TiC, NbC and/or TiN, are supplied to the steel substrate.

 11. Method according to any one of claims 6-10, *characterized in* that the
25 chemical composition of the steel in % by weight is 0,8–1,2 % of C, preferably about 1 % of C, 0,20–0,35 % of Si, 0,35–0,50 % of Mn, maximum 0,02 % of P, maximum 0,01 % of S, with Fe as balance and the content of some additional element in the periodic system in contents below 0,5 %.

30 12. Method according to any one of claims 6-11, *characterized in* that the wear-resistant coating has a level of surface hardness of more than 850 HV.